The Trimble and Wassall Brick Companies, Athens County, Ohio

by

James L. Murphy

Contributions to Ohio Ceramic History

No. 7

2011

Grove Lucky Press

James L. Murphy

Contributions to Ohio Ceramic History ; No. 7

Grove Tucky Press

Grove City, Ohio

Contents

Introduction

There are few traces of the once thriving coal and clay industry associated with the villages of Trimble and Glouster, Athens County, Ohio. The most conspicuous is probably the steep scar along the hillside east of the town, marking the original shale pit that supplied raw material for the Trimble Brick Manufacturing Company. Somewhat more is left of the Wassall Fire Clay Co. site in nearby Glouster, though its most impressive features have disappeared.

At first rivals and then a combined venture of the Hisylvania Co., the Wassall Fire Clay Co. of nearby Glouster and the Trimble company were an important part of the economic life of these villages for many, years until paving brick went out of favor and the the housing construction bubble began to lose steam, the Great Depression providing the *coup de grâce.*

Hisylvania

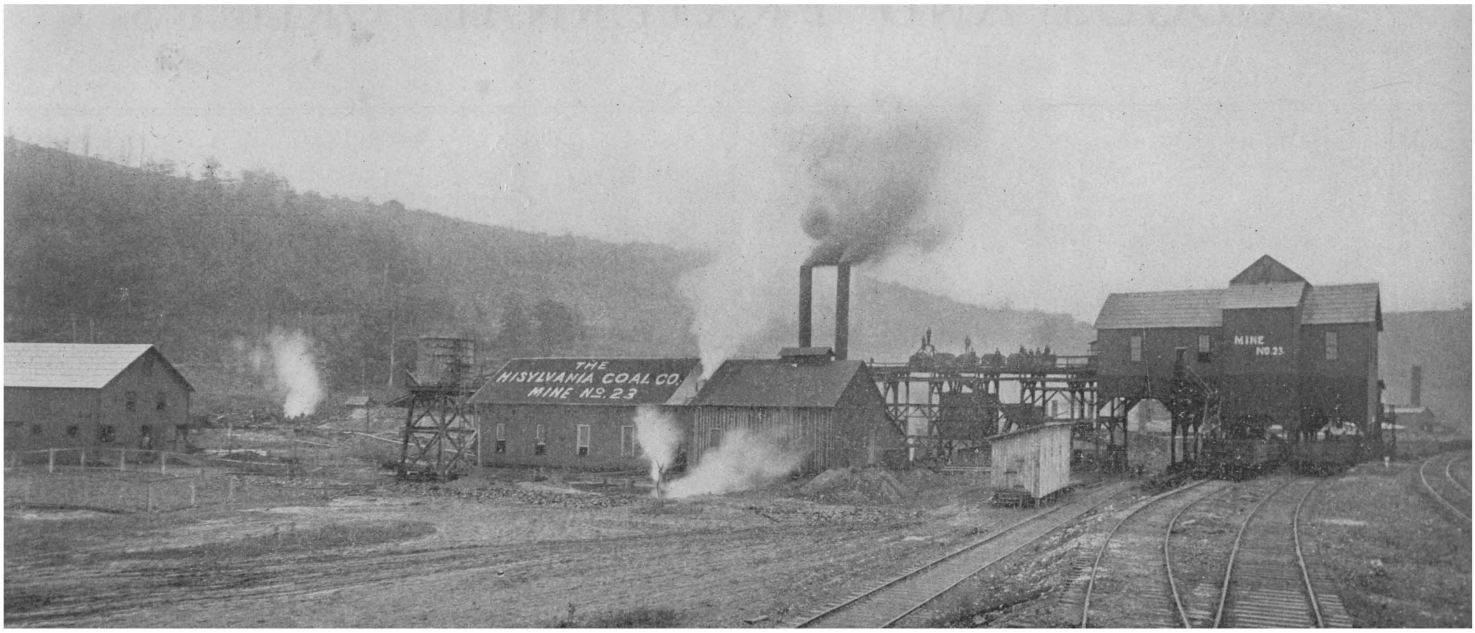
The history of brick making in the neighboring towns of Glouster and Trimble, in northern Athens County, Ohio, is intimately related to that of the Hisylvania Coal Co. and the Blower Family. Joseph Blower was a British coal miner who came from Staffordshire to the United States in 1884, along with his oldest son, joined two years later by the rest of the family. Blower worked as a brick and mining contractor in Fayette and Washington Co., Pennsylvania, and died in 1912. His oldest son, Joseph W., worked first as a coal miner in Allegheny Co., Pennsylvania, moving to Ohio in 1890, where he studied mining and engineering at Ohio State University. He then returned to Pennsylvania and began his own operations at Webster, Westmoreland Co., in 1895. In 1901 he relocated to Ohio, buying mining property that was being developed by another Englishman, William Job, at Trimble, Athens Co., and org-

izing the Hisylvania Coal Co., of which he was president and general manager (Taylor 1909, 2: 585-86). ([O]Hi[Penn]sylvania, get it?) Blower was also extensively involved in mining in Belmont and Meigs Co., Ohio, as well as West Virginia. J. W. Blower lived in Trimble only a few years before moving to Columbus in 1907, where he died in January, 1930 (Athens *Messenger*).

In 1905 J. H. White, a Pittsburg attorney was president; W. H. Hopewood, a Uniontown physician, secretary; J. W. Blower, Trimble, treasurer and general manager; E. M. Blower also of Trimble, superintendent. The company began to ship coal in December 1901, although the tracks and tipple were not completed until January, 1903. About 125 men were employed. The coal lands were leased from A. E. Lewis of Sabina and the heirs of William Palmer of Glouster. The main opening was a slope eight feet high and sixteen feed wide. At a point 550

into the tunnel, a shaft was sunk 650 feet to the Middle Kittanning No. 6 coal seam. As 90 percent of the miners owned their own homes the company never found it necessary to build any miners' houses (*Centennial Atlas* 1905: 49).

Another son of Joseph Blower, Enoch M. Blower, also assisted in developing the mines at



Hisylvania Coal Co. Mine No. 23, Trimble
(Centennial Atlas Association 1905)

Trimble in 1901 and became vice-president of the Hisylvania Coal Co., operating mines 22 and 23 as well as the brick plants at Glouster and Trimble. These plants were established by a syndicate from Dayton under the name of the Trimble Brick Manufacturing Co. but were taken over by the Hisylvania Brick Co. in 1920 (Galbreath 1925, V: 35-36).

Trimble Adit (Courtesy Peter Cristofono)

Enoch M. Blower (Galbreath 1925)

Wassall

According to Beatty and Stone (1981: 89), the Wassall Brick Co. was started by A. E. Lewis of Sabina, Ohio, president of the Glouster Bank, the brick factory opening "about 1890-1891" and continuing until "about 1920." Ries and Leighton (1909: 172) state that the manufacture of shale pavers was begun at "Gloucester" by the Wassall Brick Co. in 1889, a year before the Nelsonville Brick Co. began production. Orton (1893: 192) lists the Wassall Fire Clay Co., Columbus, Ohio, as making Hallwood Block with a plant of ten kilns, and this plant actually was in Columbus. All of which begs or ignores the question of why the company was named the Wassall Fire Clay Co.

Reis and Leighton (1909: 169-170) noted that as early as 1870 a sewer-pipe factory was started in Columbus but the poor character of the raw

materials required a shift to the manufacture of paving brick. This was in fact the nucleus of The Wassall Fire Clay Co., which was organized in 1873 by Augustine Converse, who had moved to Columbus from Plain City in 1871. The Wassel [*sic*] Fire Clay Co., exhibited terra cotta and fire brick at the 1876 Philadelphia Exhibition (Centennial Catalogue Co. 1875: 107). Converse served in various capacities, including vice-president, director, and plant superintendent (1881-1884) until his death in 1888 (Converse 1905).

But the origins of the company date well before Augustine Converse's appearance upon the scene, and the answer was finally found in Lee's *History of the City of Columbus* (1893, II: 331), where an account of the Columbus Sewer Pipe Co. is quoted from the September 29, 1870, issue of the *Ohio State Journal*. According to it, some two years earlier the "peculiar clay and soapstone shale" along the ravine on the Joseph Guitner

farm was recognized as being very similar to that used to manufacture "the celebrated Middlebury [Akron] stone sewer pipe." Samples were taken

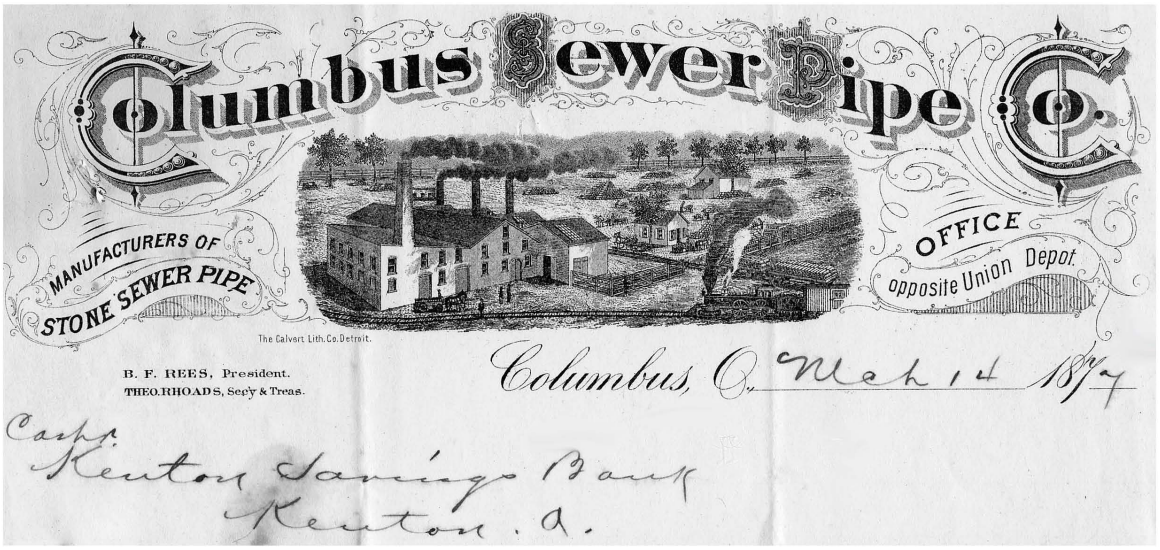
Olentangy Shale along Glen Echo Ravine

to Middlebury and produced "a very superior article of sewer pipe." The clay was pronounced superior in many respects to clay used elsewhere for sewer pipe manufacture. Unfortunately, these sanguine observations were not entirely true. Visited today, the lower reaches of Glen Echo

Ravine reveal that the "peculiar clay," actually an outcrop of the Devonian Olentangy Shale, overlain by black, fissile Cleveland Shale, is only a few feet thick. Nonetheless, the Columbus Sewer Pipe Co. was organized with $100,000 capital and incorporated March 7, 1869, with B. F. Rees, Windsor Atcheson, S. Medbery, James A. Wilcox, Philemon Hess, Joseph Guitner, and S. S. Rickly as directors. The company purchased 15 acres of the Guitner farm along what is now Glen Echo Ravine and elected B. F. Rees president and William Wassall superintendent. In the spring of 1870 the manufactory was erected on the high ground near the Worthington Road, machinery was put in place, and two kilns erected. Results were "satisfactory beyond the brightest anticipations" and the work was extended, with two more kilns built.

The 1872 atlas of Franklin County shows Seth Shoemaker, John Veatmran (?), Constant Isabell, and Windsor Atcheson as brickmakers

in Clinton Township and locates the Columbus Sewer Pipe Co. along the south side of Glen Echo Ravine, with William Wassall as superintendent. In 1872/ 1873 and later city directories the company's office is located "downtown," at the corner of High and Randolph, while an 1877 letterhead states that the office is "opposite Union Depot." Unfort-



Columbus Sewer Pipe Co. 1877 Letterhead

unately, the lithographic view of the plant provides no specifics about the location, but the presence of a railroad (and a locomotive) in the

foreground suggests that the factory by that time was also located near the depot. In any case, the 1874 city directory lists the Columbus Sewer Pipe Company at the northwest corner of High and Randolph and Wm Wassall, Foreman Columbus Sewer Pipe Works, residence Fourth west of High Street, North Columbus. While the Columbus Sewer Pipe Works (and storage yard) continues to be listed on High Street at Randolph or nearby Naughton and is so shown on the 1887 Sanborn Fire Insurance Map, in 1875 the Wm. Wassall & Co. fire brick works is listed at Factory and Buttles Avenue. The Wassall Fire Clay Co. was actually incorporated May 10, 1875, with a stock increase in 1892, and not dissolved until 1902 (Ohio Secretary of State. Corporate Records). In 1876, Wassall is listed as president and Augustin Converse as secretary and treasurer. So it would seem that Ries and Leighton were not entirely correct, for the Columbus Sewer Pipe Co. clearly continued to make sewer pipe well after the formation of the Wassall Fire Clay Co., although it is interest-

ing that the Wassall Fire Clay Co. of Columbus was still using a sewer pipe press to produce their Hallwood Block.

George G. Collins
Second President of Wassal Fireclay Co.

The 1878 Columbus city directory indicates some changes: notably, Wassall has been made superintendent and replaced as president by G. G. Collins. By 1879 Wassall had moved to St.

Louis, where he was working at Green's brickyard. The Columbus company, still bearing his name, is listed as manufacturing sewer pipe, fire brick, chimney tops, etc., with office and yard on High Street opposite the Union Depot, although the plant was still at Buttles and Factory St., along the Olentangy This continued into the 1880s, while William Wassall seems to have thrived as a brick maker in St. Louis, living until 1903 and raising a family of seven children; a grandson, C. Ray Wassall would become a prominent early aeronaut, a friend and at one time commanding officer of Charles A. Lindbergh (Abercrombie 2009).

William Wassall is believed to have immigrated from England in 1865, although he is not found in Columbus until about 1869. It is not certain that he had engaged in the brick-making industry in England, for he is listed in the 1861 census as a hosier and in the 1870 as a farm laborer. Born in Kingswinford, Stafford-

shire in 1835, the son of George and Ann Wassall, six year old William is found in the 1841 census, his father and older brothers Henry and R[e]uben laboring as "Malsters," which presumably should be" Maltsters." In 1851, however, while George has become a Master Maltster and sons Reuben and Joseph are still listed as maltsters, Henry is listed as a potter. Curiously, 16-year-old William is not listed, although he is found in the 1861 census for Kingswinford, aged 26, wife Sarah, and young daughters Emma and Sarah E., occupation hosier.

As for the history of the Wassell-less Wassall Fire Clay Co., George G. Collins died in 1885, Augustin Converse in 1888, and George J. Atkinson (1841-1898), erstwhile company treasurer, then became president, with Converse's son, Edward J. (1865-1946), a young Columbus attorney, becoming vice-president for a short time before foresaking the business world to become a Congregationalist minister.

Joseph M. McDowell (1845-) and S. Smith McDowell (1849-1945), who worked for the firm for many years, incidentally were step-brothers of Augustin Converse's wife. J. M. began as corresponding secretary around 1878 and by 1900 he was president, with brother S. Smith McDowell as secretary-treasurer, and another brother, David E. McDowell (1853-1910), as general agent (*Water and Sewage Works* 19: 26). Thus, Atkinson and the McDowells were largely in charge when the Wassall plant was moved to Glouster, Athens County, Ohio.

Even so, the company's interest in the mineral rich Sunday Creek valley, in the middle of which lie Glouster and Trimble, was by no means new. G. G. Collins, for example, had been an incorporator of the Columbus & Eastern Railway chartered in 1882 to run from Columbus to Moxahala, with branches to Redfield (just south of Trimble) and to Cannel-

ville. The rail line was completed to Moxahala in January, 1884 but the following year went into receivership. (The receiver was none other than W. E. Guerin of the Columbus Sewer Pipe Co.; at the same time Augustin Converse was appointed receiver of the Buckeye Coal & Iron Co., a subsidiary of the Columbus & Eastern.) Back on track, as it were, the Columbus & Eastern was purchased by the Columbus, Shawnee & Hocking railway, incorporated in October, 1889, just a few weeks before the purchase of the C & E. (Guerin was also an incorporator of the Columbus, Shawnee & Hocking.)

The trade journal *Brick* (December 29, 1893) briefly reported that the "Wassel Fire Clay Co., Columbus, will move to Glouster, where a bonus of $17,500 has been offered." Orton (1893: 208) listed the Wassall Fire Clay Co. of Columbus as utilizing some eight kilns to produce 6.0 million

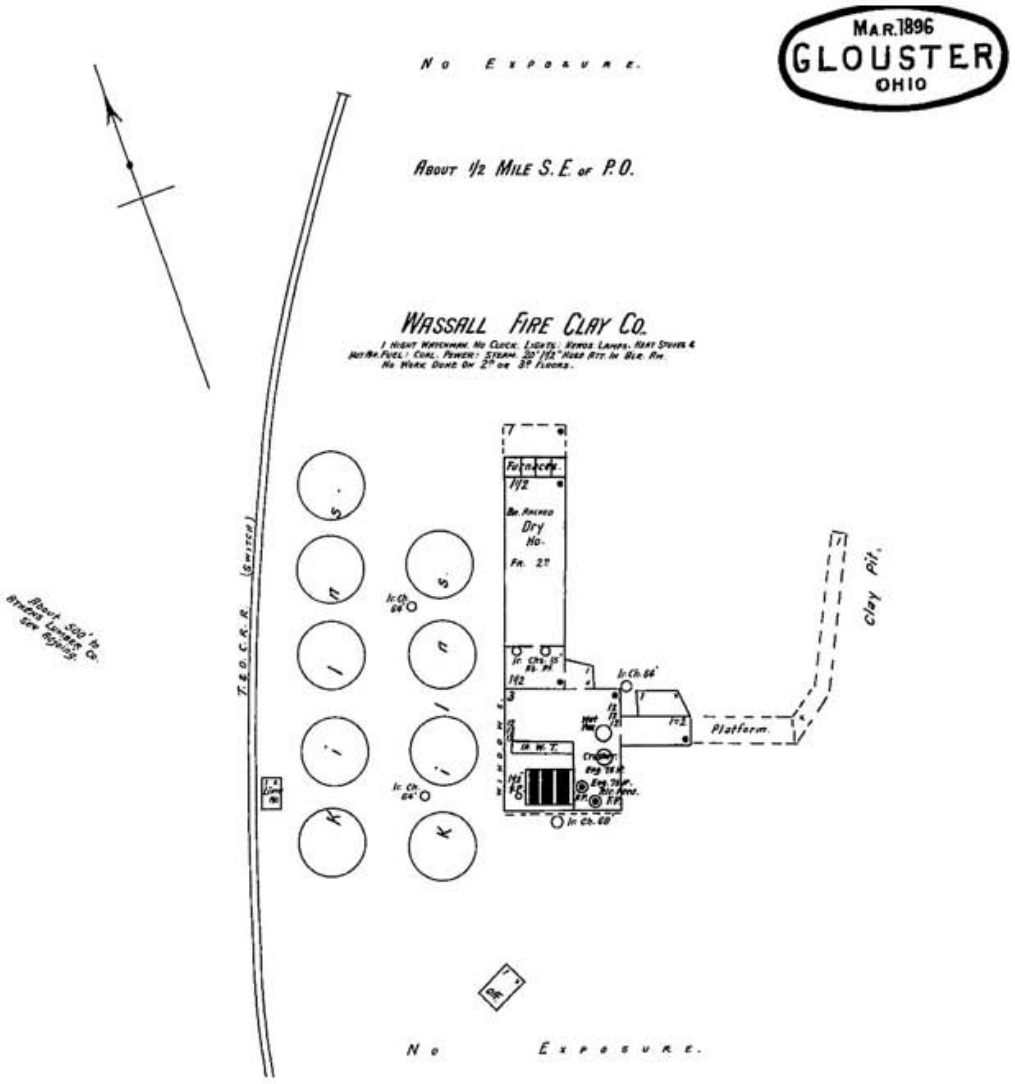
Hallwood Block per year. According to the Athens *Messenger* of November 2, 1894, the Wassall Brick and Tile Co. of Columbus was selling lots in an addition to Glouster and proposed to erect a brick and tile company, suggesting the Glouster plant started around 1895, a date supported by a photograph in the Ohio University Archives labeled 1895-1932. The offices remained in Columbus, at 40 East Spring Street, and in 1898/99 George J. Atkinson was still president; Joseph M. McDowell vice-president and secretary; and Smith S. McDowell, treasurer. The company was listed as "sewer pipe and fire clay" (R. L. Polk & Co. directory, p. 944). In 1896/7 and earlier it was listed as "sewer pipe and fire brick," and 18901/2 also listed chimney tops, flue pipe, and "The Hallwood Street Paving Block a specialty."

That the company had a continuing role in sewer pipe production is documented by a very rare advertising paper weight preserved in the

Pollack Advertising Museum, Mesa, Arizona. This very likely dates to the period prior to the relocation of the plant to Glouster, Ohio.

(Courtesy Pollack Advertising Museum)

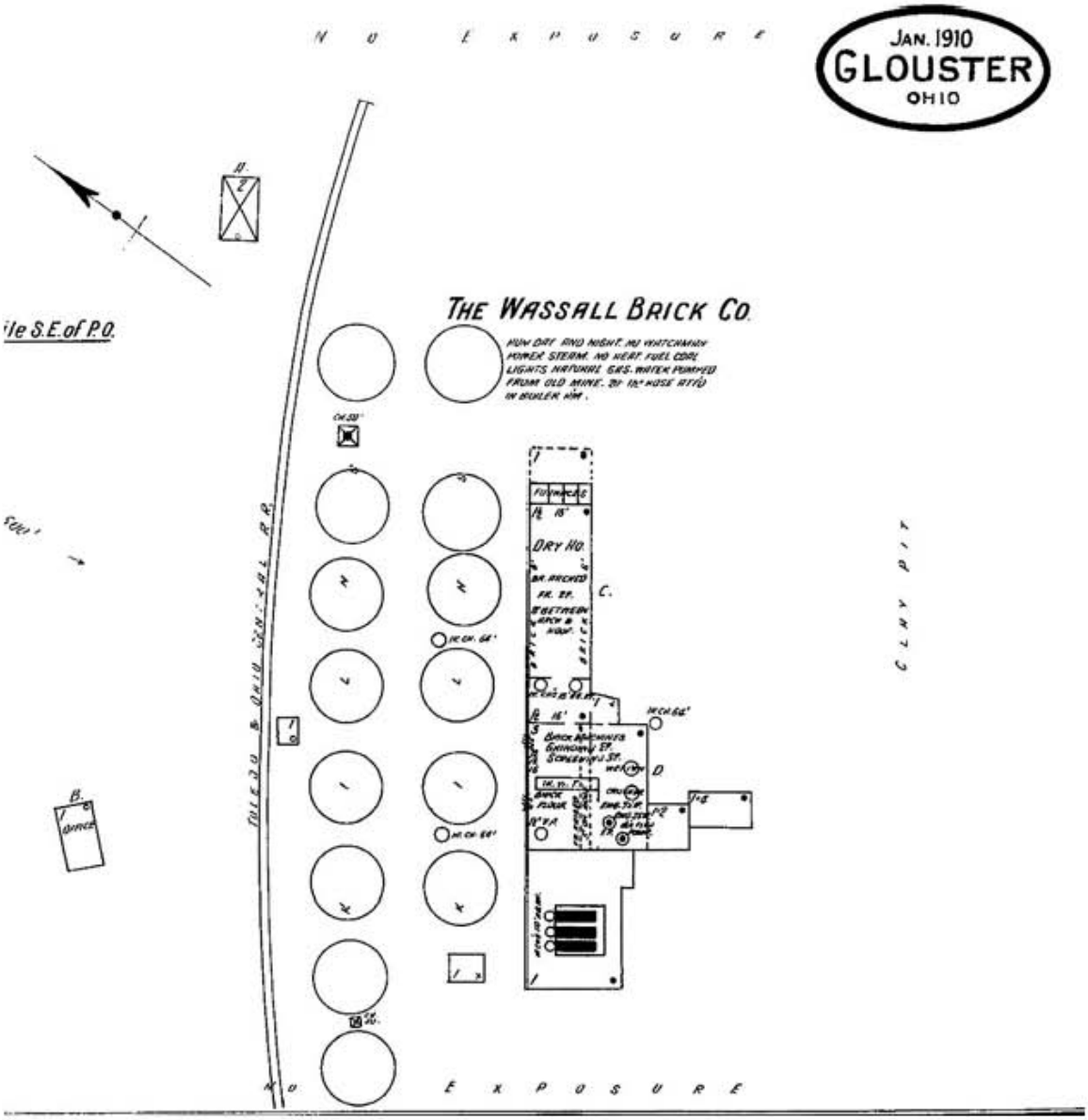
According to Condit (1912: 235-236), the Wassall Brick Co. at Glouster was one of the largest and most successful paving block manufacturing concerns in the state and had been in operation "for a long period of years."



March 1896 Sanborn Fire Insurance Map

The earliest fire insurance map is dated 1896 and shows nine beehive kilns to the east of a Toledo and Ohio Central Railroad spur, and not

much had changed by 1901, although there was a stock increase in 1892, when the name was changed to the The Wassall Clay Co. In 1902



Sanborn Fire Insurance Map, January 1910

the Wassall Clay Co. of Columbus was capitalized at $30,000 by J. M., S. S., and J. A. McDowell (*Brick*, May 1902). The plant had expanded to fourteen kilns by 1910 and Condit was able to report that the average annual output was ten million "Wassall Block" and that

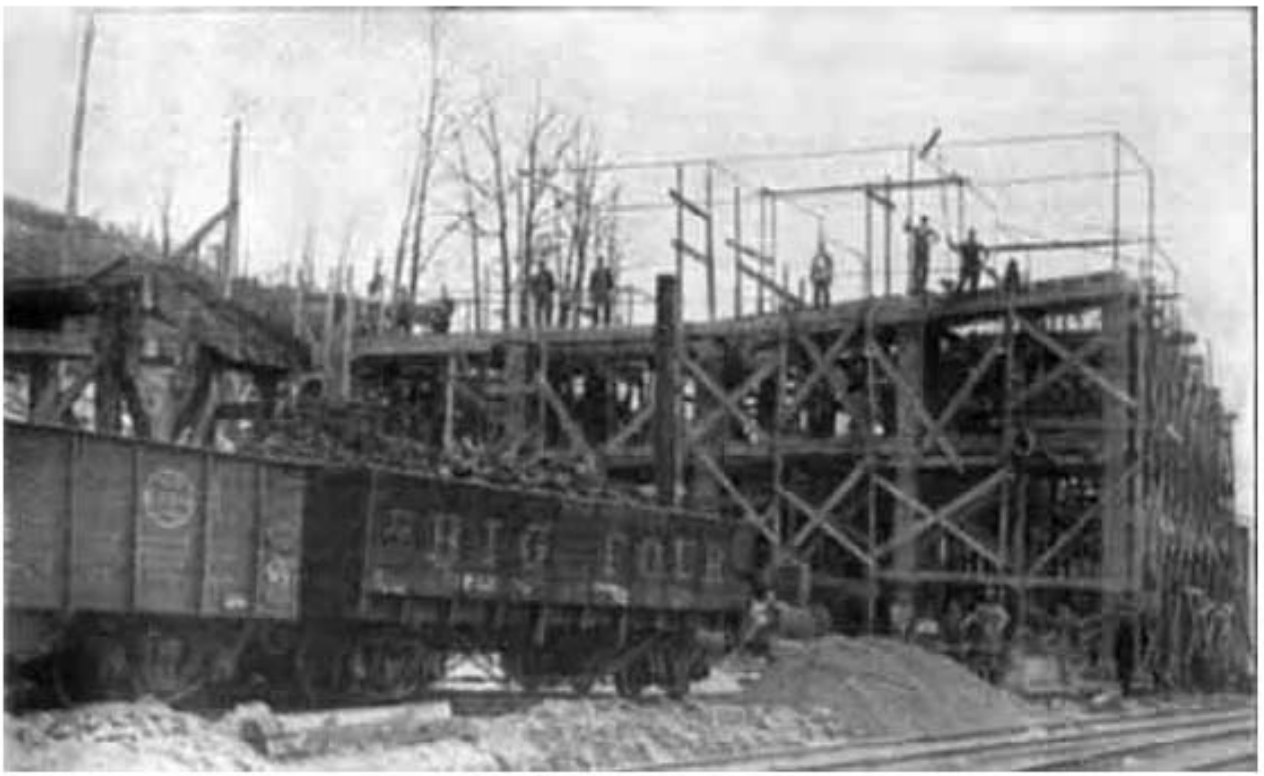
Wassall Brick Plant at Glouster

from January through October, 1911, the plant had produced six million brick. By then there were 14 round kilns, with the shale being

lowered from the quarry above on a counter-balance incline. At that time over an acre had been quarried, leaving a vertical cliff about 70 feet high extending several hundred yards around the hill. Condit observed that there was little overburden and that the way was clear for years of work without requiring an undue amount of stripping.

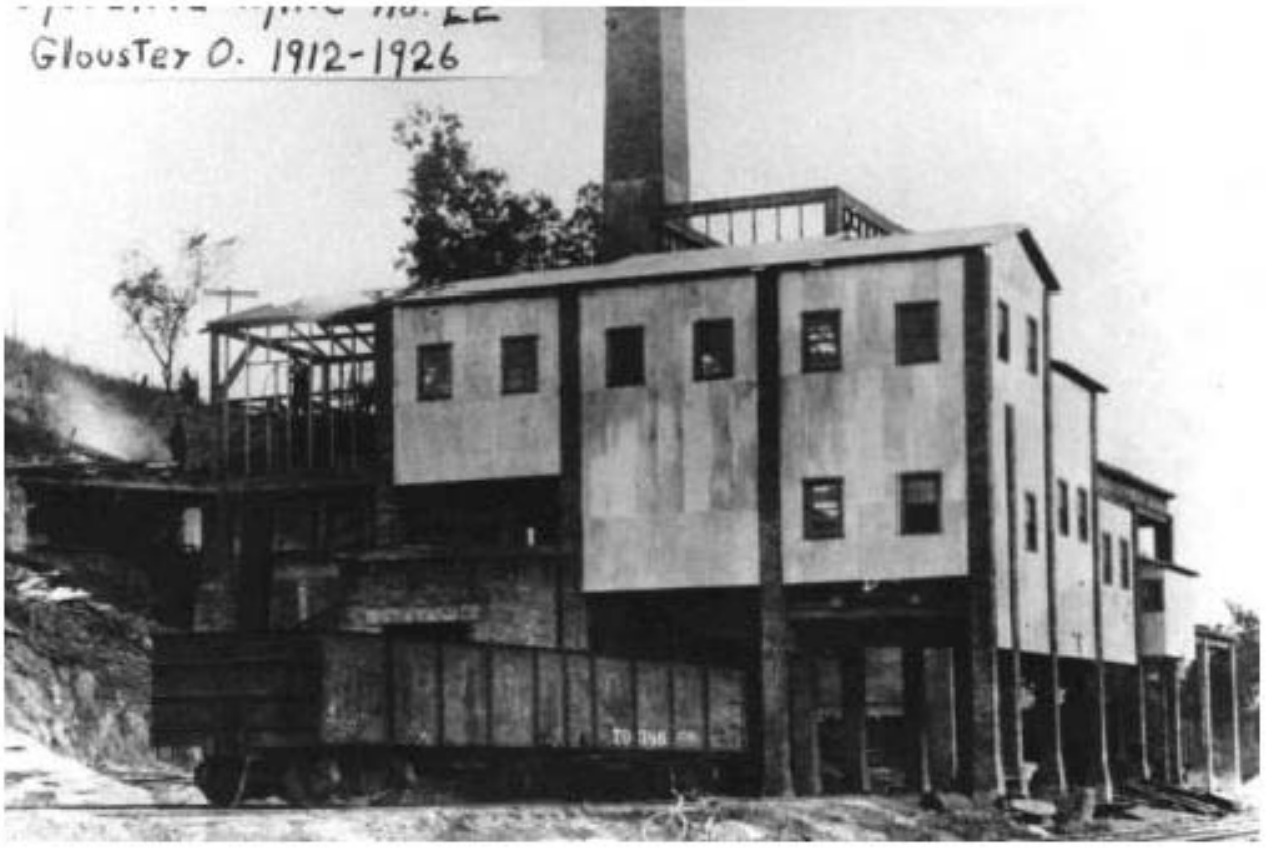
In 1912 the Hisylvania Coal Co. erected a remarkable brick and concrete tipple thought to be the first of its kind in the United States. A thorough description of it is provided by Burroughs (1917). Costing half the estimate for the steel tipple originally planned, the innovat-

ive tipple stood the test of time, and five years later President J. W. Blower testified that the tipple was as firm and rigid as steel and concrete tipples, with no vibration. Certainly remnants of the tipple lasted long after the mine and adjacent brick works ended production, for it was not finally dismantled until 2001.

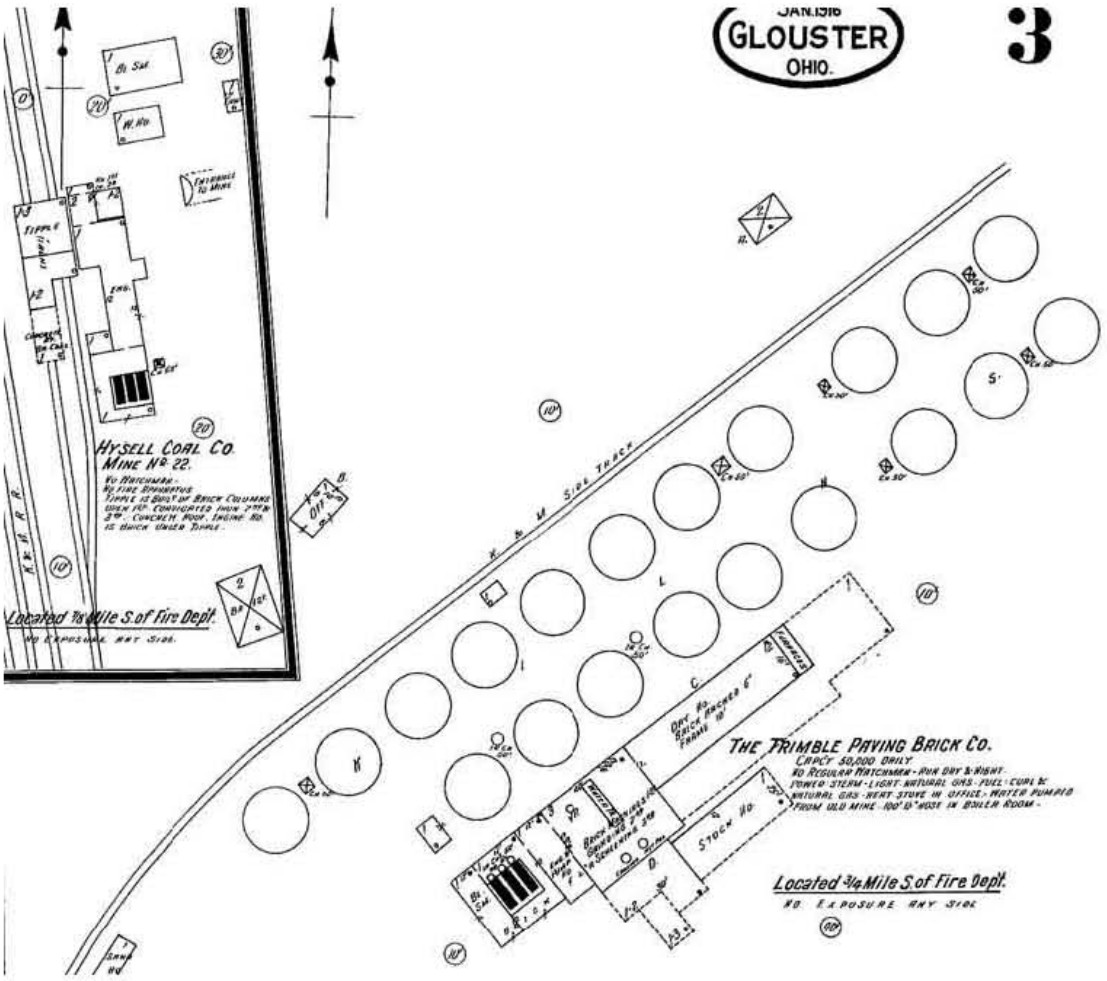


Hisylvania Mine 22 Tipple Under Construction
(Coal Age)

In 1913 both the Wassall and Trimble brickplants were taken over by a new entity, The Trimble Paving Brick Co. of Dayton, Ohio, incorporated with $350,000 capital stock. R. T. Baker, president, and J. H. Simpson were among the incorporators, and the following year saw $50,000 in improvements (*Brick and Clay Record*, January 29, 1915). Presumably these



Hisylvania #22 Tipple at Glouster



January 1916 Sanborn Fire Insurance Map

improvements include the six additional kilns that are shown on the January, 1916, Sanborn Fire Insurance map, which also shows the Hisylvania #22 coal tipple built in 1912. This undoubtedly was the high point of the brick plant at Glouster,

for the firm was overextended and soon faced labor problems, as outlined in the following section. Along with the Trimble plant, it was purchased by the Hisylvania Coal Co. in 1918.

Trimble

Beatty and Stone (1981: 89-90) thought that the Trimble brick company was started around 1900 by Thomas Mason, Issach Lafolet, and William Hyde. *Brick* (April 1902) does report that the Trimble Brick Co., *a new corporation*,

had elected F. M. Koons of Columbus president; C. H. Pettit of Trimble, vice-president; C. W. Wilson of Trimble, secretary; D. Edwards of Glouster, treasurer; and W. H. Hide [*sic*] of Trimble, superintendent. William H. Hyde can be identified in the 1900 federal census, 45 years old, living in Trimble, where he was general manager of a brick plant; he was also listed as general manager of a brick plant in 1910 but by 1920 he was president of a foundry. Francis M. Koons in 1900 was a Columbus "lumberman." Columbus H. Pettit, aged 53, was a Trimble wagon maker. David Edwards, ae 56, was a Glouster bank cashier. Matters had not changed much by the 1910 census, except that David Edwards could not be located. "Issach Lafolet" remains unidentified in both censuses.

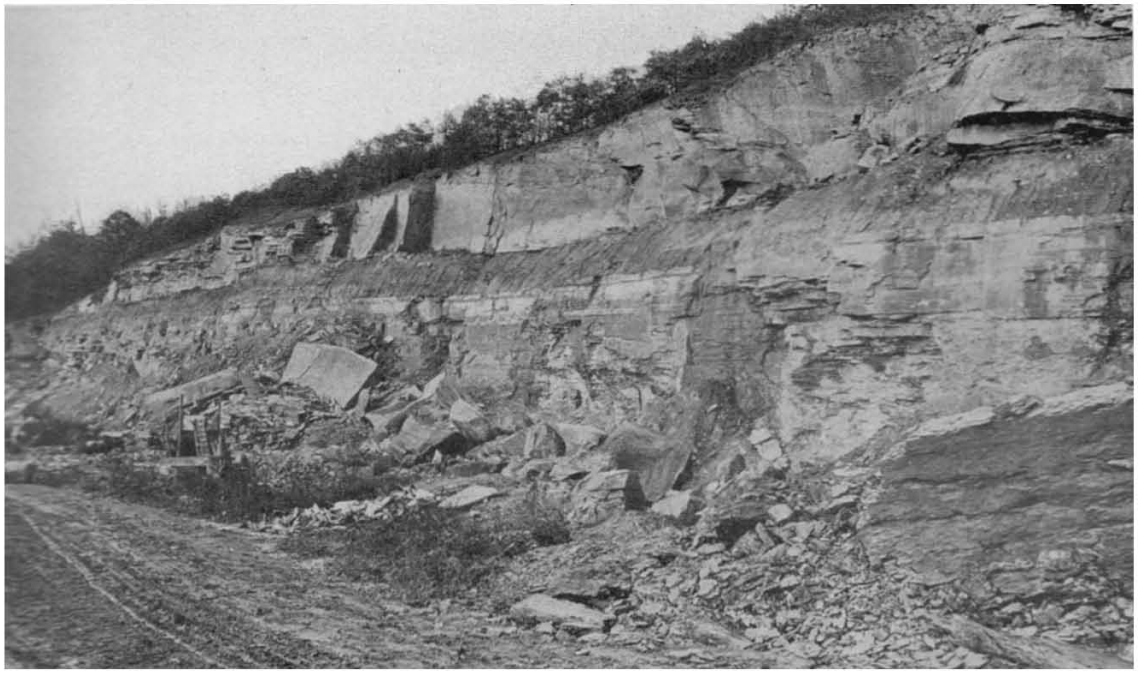
There is substantial evidence to suggest that the Trimble plant started quite a few years earlier than 1900, for it is listed in the Tenth Annual Report of the Ohio Department of Inspection of Workshops, Factories, and Public

Buildings... for the Year 1893, one of 28 paving brick companies in Ohio, producing six million bricks per year. The inspection report, incidentally, chided the company for not reporting accidents. Orton (1893: 192-198) lists 45 paving brick companies, including the Trimble Brick Manufacturing Co., which was producing plain, side-cut pavers measuring 2 ½ x 4 x 8 ½ inches.

Further, the September 27, 1894, issue of the Athens *Messenger* notes that Dan Border, Jr., of Hibbardsville, had returned to his position at the

Trimble brick plant, and the issue of September 2, 1897, reports the death of Thomas J. Mason, president of the Trimble Brick Co., so the company clearly was operating prior to that date. That same year (*Municipal Engineering* 13: 59) both Wassal[l] and Trimble were among fifteen brick companies submitting bids for paving part of Washington St. in Napoleon, Ohio.

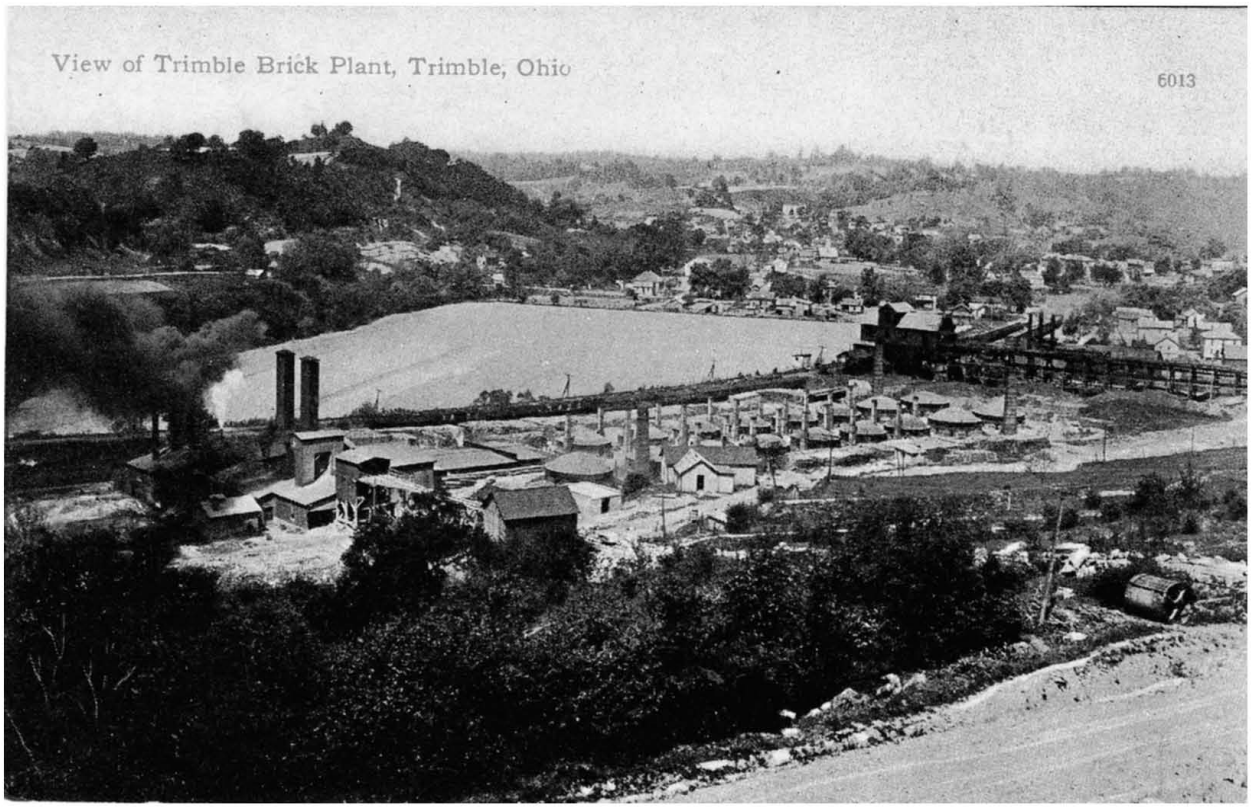
The Trimble Brick Manufacturing Co. utilized the same horizon of shale and clay lying between the Portersville and Cambridge limestones. In 1911 there were 17 round kilns producing paving block, making about 6.3 million blocks that year. Even at that time Condit noted that heavy stripping would be required in the future to procure adequate clay, and this is one of the major reasons for the plant's decline (Condit 1912: 236-237).



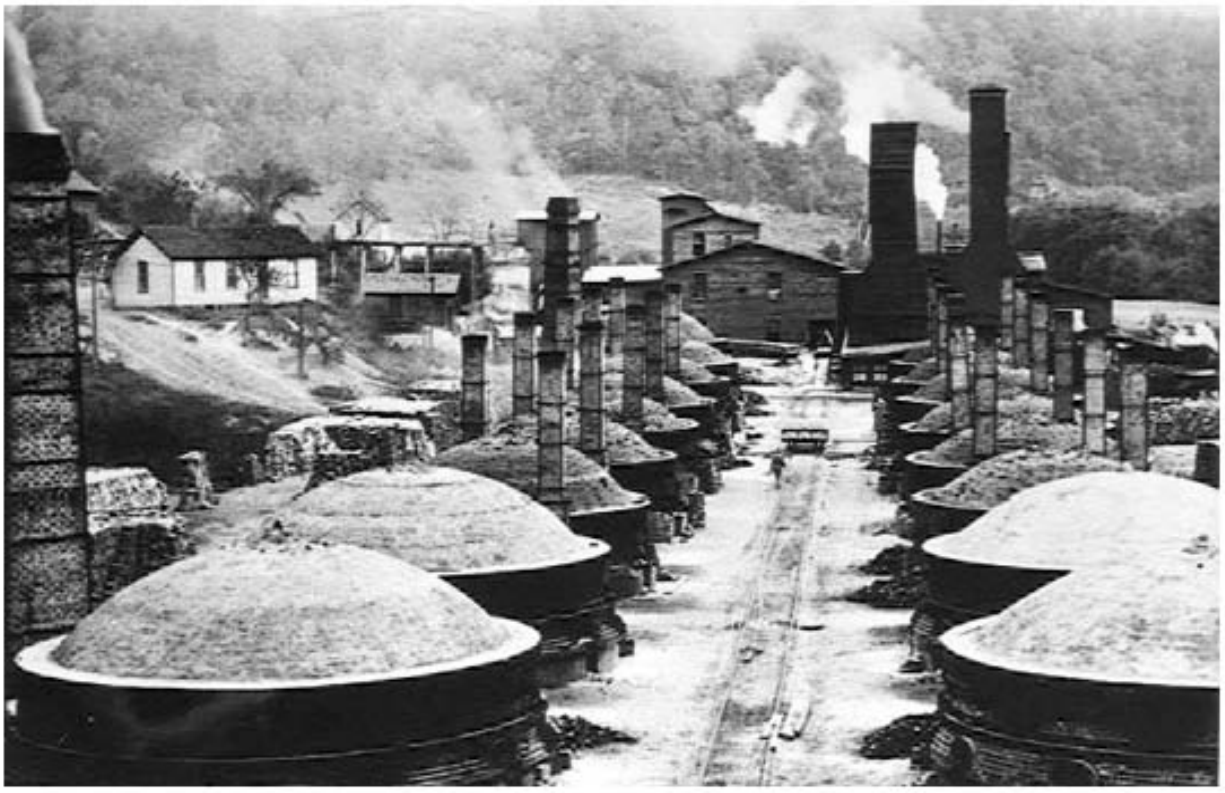
Trimble Brick Plant Shale Pit (Condit 1912)

As noted earlier, both the Wassall and Trimble brick plants were taken over by a Dayton consortium, the Trimble Brick Manufacturing Co., in 1913 (*Iron Age* 91: 750) This is confirmed by Logdon's 1913 directory, which lists the Trimble Paving Brick Co. in Dayton, with a branch in Trimble, Ohio, and the Wassall Brick Co. as another branch of that company. The 1913 Good Roads Yearbook still

lists the Wassall Brick Co., R. L. Lewis, but also lists the Trimble Brick Manufacturing Co., J. H. Simpson, Dayton, Ohio. Simpson, according to the 1910 census was a 28 year old "street paving contractor" who later dealt in real estate. Robert L. Lewis was the 28 year old vice-president of the Glouster bank. The relative youth of many of these entrepreneurs is striking.



Undated Postcard View of Trimble Plant with Hisylvania Coal Tipple at Upper Right



Trimble Brick Plant ca. 1910 (Ohio University Archives)

In 1914 the Trimble Brick Co., with two plants at Glouster and Trimble, was reportedly investing $50,000 in improvements (*Brick and Clay Record*, February 16, 1915). R. T. Baker of Dayton was president. (This would be Ril T. Baker, who was engaged in life insurance in Greenville, Ohio, in 1900 but who had moved to

Dayton by 1920.) This is an indication that perhaps the company had overextended itself. But there were also labor problems, for in 1916 the workers struck for 35 cents an hour; they were currently working ten hour days for $2.00 a day (Athens *Messenger*, "Ten Years Ago," July 16, 1926). In any case, in April of 1917, William H. Crume was appointed receiver for the Trimble Paving Brick Co. (Athens Messenger April 24, 1917). The following year (*Brick and Clay Record*, January 1, 1918), Crume, who was the head of the Crume Brick Co., of Dayton, was granted authority to sign a 30 day option for selling both the Glouster and Trimble plants for $75,000. Both plants had been idle for several months at that point. The plants were eventually sold—to the Hisylvania Coal Co.

Sadly, this change in ownership and management did nothing to solve the company's problems. Another strike in 1921 while Pres-

ident Blower was in England, closed the two plants again. With the closing due to the coal strike, which of course also closed the Hisylvania coal mines, no effort was made to settle the wage scale dispute with the clay workers (*Brick and Clay Record* August 23 1921). At this time, the Glouster plant was still making paving blocks but the Trimble plant had switched to building brick (*Ibid.*, May 16, 1920). Dzuro (2008) documents three variants of the building block marking and no fewer than sixteen variants of the paving block mark.

The Hisylvania Mine 23 at Trimble ended production in 1925 (Ohio University Archives, Buhla Collection), and it seems probable that brick production at the Trimble plant also ended at that time. It definitely had ended by 1928 when only the Hisylvania paving brick plant at Glouster is listed (Bownocker and Stout 1928: 5). It appears that the Glouster brick plant finally succumbed in 1932 (Ohio University Archives, Buhla Collection).

Archaeology

Visiting the sites of these two brick factories today raises a number of archaeological questions and problems that ultimately probably cannot be adequately addressed. Ideally, for example, it would be possible to identify which bricks were made at which plant and to develop a chronology of specific brick types, particularly in the case of those that are branded. At the very least, it should be possible to relate existing architectural remnants to structures indicated on the available Sanborn fire insurance maps. For a variety of reasons it is unlikely that much can be accomplished toward either of these ends, however.

The degree to which the histories of these two brick plants are intertwined is brought home by even cursory examination of the considerable remnants left at the Glouster plant site. (There are virtually no above-ground remains of the

Trimble plant.) While no precise count or estimate has been made, there is a remarkable amount of Trimble bricks not only lying loose on the surface at the Glouster site but incorporated in the structural remains. For example, the adit of the Hisylvania #22 mine is constructed entirely of Trimble brick. Since this

Hisylvania #22 Mine Adit

Close-up of Hisylvania #22 Retaining Wall

adit presumably was built well before the brick plants were purchased by Hisylvania, it may simply be that Trimble brick was cheaper at the time it was constructed.

To the south of the Hisylvania #22 adit, foundations of what is believed to be the company washhouse are built of Trimble Block

and unmarked building brick. To the north, remnants of what seems to have been the blacksmith shop, are also built of Trimble Block.

Blacksmith Shop (?)

As for the brick plant itself, most of it has been seriously impacted by demolition of the kilns and ancillary structures, which occurred sometime prior to 1934, and by the more recent construction of the present Hocking-Athens-

Action Center. Although *in situ* brick walls remain at the base of the wooded hillside leading up to the shale pit, it has not been possible to relate these directly to the available Sanborn fire

Trimble Paving Block and Building Brick (Glouster Site)

insurance maps. These structural remnants are built of Wassall Block. Some fragments of kiln wall also remain in the western portion of the site,

Two Trimble Variant Bricks
(Glouster Site)

where they apparently represent the westernmost of the line of kilns. Associated with them were several OkilO fire bricks, made by the Pyro Fire Clay Co. of Oak Hill, Ohio, and quite a few more marked "ATLAS." Although Gurcke (1987: 274-275) provides dates of 1921-1942 for the Okilo trade name, it is advertised as early as 1910 (*Iron Trade Review* 46(26): 114). Their presence at the Glouster site may very well be related to the improvements made by Trimble Paving Brick Co. in 1915 (which is also the most obvious explanation for the large number of Trimble Block brick encountered.) The "ATLAS" brick are more difficult to date, as it has been attributed to several plants. The most likely candidate was made by the Davis Fire Brick Co., a brand which Gurcke documents from 1921 to 1930 (Gurcke 1987: 204-205), although the company was in business from 1901 to 1957.

The best remaining structural feature is the foundations of a rectangular building very close to the railroad. It may be the Sand House shown on

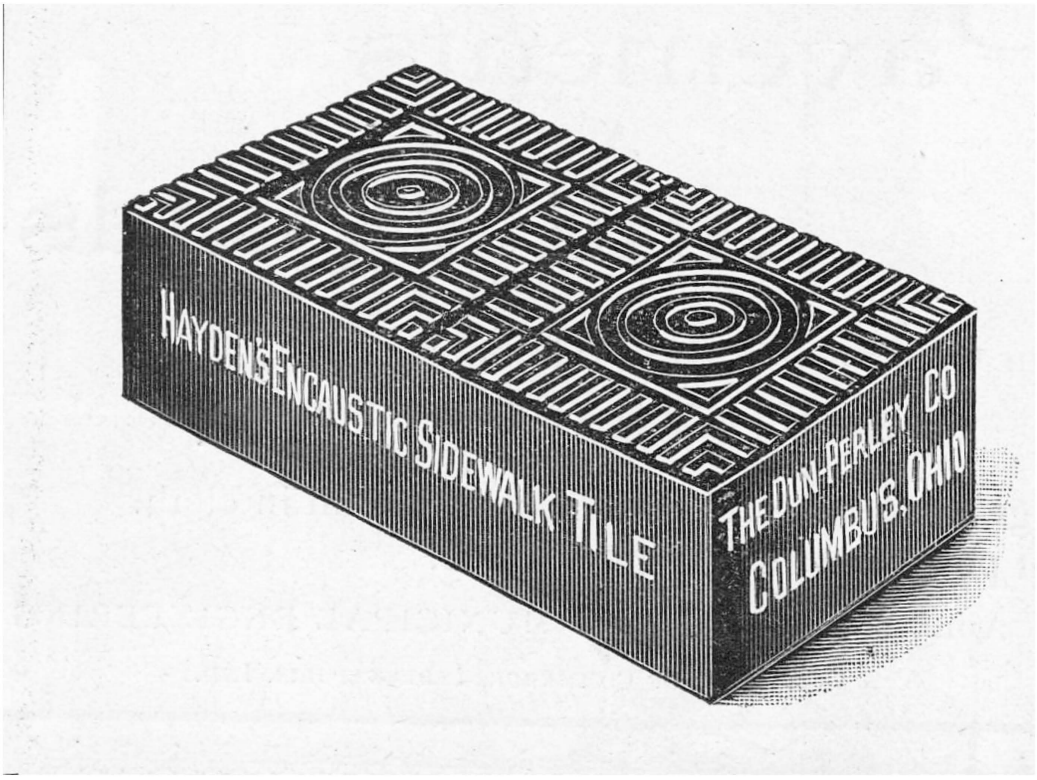
OkilO Fire Brick from the Glouster Kiln Site

various Sanborn maps. A curious feature of this structure is that while the northern part is com-

posed of Wassall block, the southern third appears to be an addition built of Trimble block.

"Sand House" at the Wassall Site.

At Trimble, the most intriguing discovery made by archaeological survey is the presence of distinctive ornamental brick found along Trimble sidewalks. These were at first dismissed as "bulls-eye" sidewalk bricks produced in the Nelsonville-Haydenville area and originally patented by Thomas B. Hayden in 1892. More careful study,



(*Paving and Municipal Engineering* August 1892, p. 88)

Hayden Patent brick in Trimble Sidewalk

Distinctive Bullseye Sidewalk Brick at Trimble

however, suggests that while some match the original Hayden patent, with sets of three corner ribs and eight along each side of the central bullseye, others are quite distinctive with a incised X design and only four ribs on each side of the bullseye (in addition to the three corner ribs). And the central bullseye has only two rather than three rings. It is suggested that these X-design bullseye sidewalk bricks were made at Trimble. Indeed, the Hayden Patent bricks may also have been made there as well.

Conclusion

The once major clay manufacturing industry of the Hocking Valley as vanished with very little trace and there have been virtually no efforts to preserve the few physical remnants that can still be found, other than the park at Nelsonville.

As for reasons for the industry's demise, then, as now, it would be easy to blame labor and unionization for the woes of the economy, but there certainly were other factors at work in the

brick industry. Over-extension, competition, and the decline in the use of paving brick in the face of asphalt and concrete were all economic factors taking their toll during the decade before the Great Depression. One of the more unusual was the State of Ohio's effort to get into the brick-making business by using prison labor at plants near Roseville and Junction City, Ohio. Despite opposition from the Ohio Chamber of Commerce and brick manufacturing associations, this plan succeeded for a few years, although its overall impact on the declining paving brick industry was minuscule.

References

Abercrombie, Jack

2009 *Major C. Ray Wassall: St. Louis Aviator of Yesteryear.* Greater St. Louis Air & Space Museum. Available online at: http://www.airandspacemuseum.org/C.%20Ray%20Wassall.pdf

American Highway Association

1913 *The Official Good Roads Yearbook of the United States.* Waverly Press, Baltimore.

Athens Messenger

"Joseph Blower Dies at Home in Columbus." January 10, 1930

Bownocker, J. A. and W. Stout

1928 *Mineral Industries of Ohio.* Geological Survey of Ohio, Fourth Series, Bulletin 33. Columbus.

Burroughs, Wilbur G.

1917 Tipple and Mining Methods at Hisylvania Mine No. 22. *Coal Age* 11(4): 191-193.

Centennial Atlas Association

1905 *The Centennial Atlas of Athens County, Ohio*. Athens.

Centennial Catalogue Co.

1876 *Official Catalogue. 1876 International Exhibition.* John R. Nagle, Cambridge, Mass.

Condit, D. Dale

1912 *Conemaugh Formation in Ohio.* Ohio Division of Geological Survey, 4th Series, Bulletin 17. Columbus.

Converse, Charles Allen

1905 *The Converse Family and Allied Families.* Philadelphia,

Dzuro, Don

2008 *Ohio Marked Bricks*. Dzuro, Akron.

Galbreath, Charles B.

1925 *History of Ohio.* American Historical Society, Inc, Chicago and New York

Grucke, Karl

1987 *Bricks and Brickmaking: A Handbook for Historical Archaeology.* University of Idaho Press, Moscow.

Longdon, L L.

1913 *Directory of Clay Products Manufacturers in the United States.* Longdon, s.l.

Ohio. Dept. of Inspection of Workshops, Factories, and Public Works.

1893 *Tenth Annual Report.* Laning Prtg. Co., Norwalk, Ohio.

Ries, Heinrich, and Henry Leighton
1909 *History of the Clay-working Industry in the United States.* Wiley & Sons, New York.

Taylor, William A.
1909 *Centennial History of Columbus and Franklin County, Ohio.* S. J. Clarke, Chicago and Columbus.

Weller, Ryan, and Justin Zink
2010 A Phase I Cultural Resources Management Study for the approximately 5.53 km (3.44 mi) Burr Oak Regional Water District Waterline and East Tank in Trimble Township, Athens County, Ohio. Submitted to M. E. Companies, New Lexington, Ohio.